The National Education Board (1929/36) and scientific research in Portugal [1]

Abstract

The Junta de Educação Nacional (JEN) (National Education Board) was created in 1929 during the Military Dictatorship. The purpose of this organization, much favoured by some sectors of Portuguese academia and intellectual elite, was the renewal of scientific, pedagogical and national economic policies. Following the example of similar international institutions, such as the Junta para Ampliación de Estudios e Investigaciones Científicas (JAE) of Spain, JEN put in place a set of articulated practices – scholarships at home and abroad, the funding of research centres and the organization of cultural expansion services – targeting the scientific updating and a greater dissemination of Portuguese culture internationally.

Key words

Portugal between Wars
National Education Board
Scholarships
Scientific networks
Internationalisation of science
Science diplomacy

1. Introduction

The recent international literature about the scientific activity that took place between the two world wars emphasizes issues related to science policy, funding of science, exchange of science researchers and internationalization of science (Siegmund-Schultze 2001; Halleux and Xhayet 2007). By focusing on the analysis of JEN we seek to ascertain the existence of a Portuguese State action plan to develop the scientific activity in a period strongly marked by economic, social and political crisis – the first half of the 1930s. Relying upon the opening of JEN's proceedings we will analyze the mechanisms that the institution relied upon to achieve its objectives – scholarships abroad and at home, funding of research centres and cultural expansion services. This approach provides a new perspective about the importance of this institution in promoting national scientific activity. The examination of the areas of knowledge that

received funding, the listing of the countries of destination of scholarship holders and of their profiles, the control of the work carried out by the institutions and researchers that were financed and the assessment of the results achieved, allows us to associate JEN to concepts such as Europeanization of science, international communication networks, science diplomacy and internationalization of scientific activity in Portugal.

2. Crisis and innovation in the genesis of the National Education Board

Portugal and Spain arrived at the end of the 19th century politically humiliated. In the Portuguese case, the British ultimatum was followed by the Republican uprising of 31 January 1891, in Oporto. The monarchy was experiencing a slow decline accompanied by a financial and economic crisis in the country (Fitas 2012: 18). Spain, for its part, suffered a military defeat by the United States in 1898, which resulted in the loss of its colonial empires in America and Asia which gave rise to a moral, political and social crisis in the country.

The countries that benefited from these two Iberian crises at the end of the 19th century were Britain and the United States of America. The former was a great colonial power and, simultaneously, an important motor for scientific and technical development during this period; the latter already stood as an important centre of scientific development and technical modernization. It is not surprising that our neighbour country assigned part of the responsibility of the "disaster" to its scientific and educational backwardness which lead to the development of a strong intellectual and civic movement advocating the Europeanization of Spanish science and education. It was in this context that the JAE was created in 1907 (Sánchez Ron sd; Viñao 2007: 13; Fitas 2012: 18-19) and presided over, from the start, by Nobel Laureate Santiago Ramón y Cajal (1852-1934); the Junta became a source of inspiration for a group of Portuguese intellectuals receptive to the need to fight the scientific backwardness in Portugal.

Despite the Decree published on 31 May 1907 – for the awarding of scholarships to Portuguese students and teachers abroad (Rollo et al. 2012: 36-37), it will only be after the Republican coup that the attempts to establish an organism that fosters the organization of scientific research, a pedagogical renewal and deepening of cultural ties between Portugal and the developed European countries will materialize (Fitas 2012: 21). A group of intellectuals that included, among others, António Sérgio (1883-1969)

and the doctors/researchers Marck Athias (1875-1946) and Augusto Pires Celestino da Costa (1884-1956) were involved in this movement.

António Sérgio was, as Minister of Education from December 1923 to February 1924, the author of the only serious attempt by a parliamentary Republican Government to promote the establishment of an organization capable of stimulating scientific research and pedagogical renewal (Fitas 2012: 23). The failure of the Junta de Orientação dos Estudos created by Sérgio, which followed other equally unsuccessful initiatives (Fernandes 1983: 603-700; Rollo et al. 2012: 43-47), would allow the Military Dictatorship to create by decree a Junta that, although inspired in António Sergio's and meant to be similar to JAE, deeply displeased António Sérgio (Baptista 2001: 77-78).

Despite the unfavourable opinion of Sérgio, then exiled in Paris in opposition to the dictatorship, the National Education Board was established by the Decree n. 16381 of 16 January 1929, as part of the Ministry for Public Education. Its creation in the period of the great depression (Maddison 1981: 63-72), in which Portugal faced overwhelming political and financial difficulties and the Government was the target of a widespread opposition, particularly in the academic sector, can be explained as an attempt at appeasement of the protests at university level (Fitas and Videira 2004: 34-35). It is important to point out that the Portuguese Junta, although seen as an original initiative nationwide, started its activity in the period between wars, in which other European and North American institutions also started their activities (e.g. Consiglio Nazionale delle Ricerche in Italy and Fonds National de la Recherche Scientifique in Belgium).

3. The National Education Board

The composition of JEN, as described in article 2 of its founding decree, is as follows:

> The Board shall be composed of a first Secretary and Second Secretary and twenty-one councillors, fifteen of which to be chosen from the teachers and assistants of the three Universities of the Republic, five for each University, and the rest between extra college professors, members of scientific corporations, or notable publicists. The councillors from Coimbra and Oporto will constitute the delegations of Junta in these cities and the Escola Superior Colonial will have representation at the Junta (JEN 1931: 18-19).

The effective management of the Junta was supervised by an executive committee which, according to the said law, included the president, two vice-presidents, two presidents of Coimbra and Oporto's delegations and two secretaries (JEN 1931: 19). The president was Admiral Carlos Viegas Gago Coutinho (1869-1959) who shortly afterwards was to be replaced by Marck Athias of the Faculty of Medicine of Lisbon. Augusto Pires Celestino da Costa, of the same Faculty, was the vice-president for Science, while Agostinho Celso de Azevedo Campos (1870-1944), former general director of secondary and higher education, held the vice presidency for Humanities. José Beleza dos Santos (1885-1962), of the Law School of Coimbra, and Joaquim Alberto Pires de Lima (1877-1951), of the Faculty of Sciences of Oporto, were the presidents of the delegations of Coimbra and Oporto respectively. The position of first secretary was held by Luís Robertes Simões Raposo (1898-1934) (MD), who had been a student of Celestino da Costa and chief of staff of the ministry of António Sérgio. Manuel Maria Múrias Júnior (1900-1960), a publicist known for his support to the ideals of the New State, was appointed second secretary (JEN 1931: 22-23, 26-27).

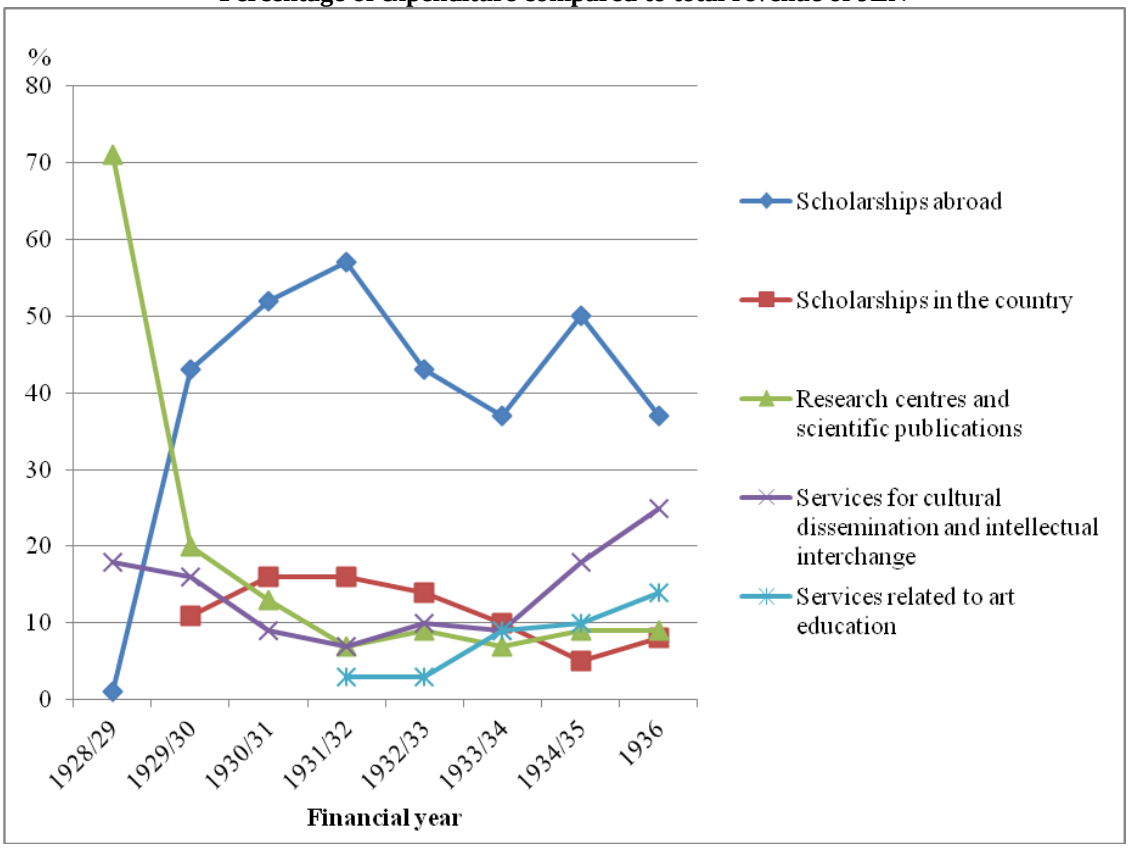
The main purposes of JEN can be summarized as follows:

> To promote and assist by all means the scientific research, to arrange scholarships at home and abroad, to ensure the employment of former scholarship holders, to promote intellectual exchanges and the expansion of the Portuguese language abroad, to establish educational test schools, to subsidize scientific publications, to promote the progressive improvement of national education and, since 1931, the artistic improvement (Costa 1934: 8-9).

Another of the objectives of the JEN was to set up, improve or subsidize institutions dedicated to scientific research (JEN 1931: 18).

All this activity is depicted in Chart 1, which covers just over eight years of JEN's operation and shows that the largest slice of its budget was allocated mainly to the payment of foreign scholarships; from 1933, the services for cultural dissemination and intellectual interchange occupy second place in the overall spending.

Chart 1[2]
Percentage of expenditure compared to total revenue of JEN



With reduced annual budgets, even lower than those of the Secretariat of the National Propaganda in 1934-35 and 1936 (Ó 1999: 56-57; JEN 1930-1935, 1938 and IAC s.d.), the activity of the Junta was strictly limited. However this did not prevent it from obtaining some significant results in most of its initiatives, until its extinction and replacement with a more controlled and less scientific Instituto para a Alta Cultura (IAC) (Institute for High Culture), in April 1936.

4. Scholarships abroad – Europe as a space for scientific updates

The high proportion of scholarships abroad awarded by the Junta, in view of the budgetary distribution throughout its existence, resulted from the philosophy of the institution which was based on the assumption that Portugal was scientifically lagging behind. It was deemed as essential to foster contacts with the science produced in countries that were scientifically more advanced than Portugal, particularly the European countries (JEN 1931: 9-18; Costa 1930: 9-12).

The reports produced by JEN between 1929 and 1936 show that the number of scholarships abroad granted by the Junta does not match the actual number of recipients, to the extent that there were individuals who received more than one scholarship or several extensions to the first one. Thus, out of a total of 292 new scholarships and renewals of scholarships abroad there are only 137 recipients and of those, less than half (47.4 per cent) obtained a scholarship abroad and did not get any extensions.

Table 1[3]
Number of external scholarship holders (1929/36)

Scientific areas	Scholarship holders	Scholarship holders with renewals	Scholarship holders with two or more renewals
Sciences	26	15	14
Law	5	4	1
Engineering	9	6	4
Agricultural engineering	11	6	3
Humanities	30	14	6
Medicine	42	21	9
Pedagogy	12	6	2
Others	2	0	0
Total	**137**	**72**	**39**

The reports produced by JEN show different results when we look at the schools or scientific areas of origin of the scholarship holders: (1) Medicine had the largest number of holders, followed by Humanities and Sciences; (2) in the case of individuals with extended scholarships the majority came from Medicine, followed by Sciences and Humanities; (3) out of these three areas of knowledge, Science was the one with a larger percentage of individuals awarded two or more extensions – 35.9% against 23.1% from Medicine and 15.4% from Humanities.

Of the three most privileged areas of knowledge in the allocation of scholarships are the Sciences whose beneficiaries received, on average, prolonged scholarships (24.5 months), as opposed to fourteen months in the case of Humanities and 11.2 months average duration of scholarships in Medicine. The Science students made up the largest group of scholarship holders who obtained doctoral degrees at the universities in which they studied. In the other areas there were also successful internships, but the final

doctorates which could have resulted, or have resulted, for the most part were carried out in Portugal, at the universities where the students originally came from (Fitas 2013a: 62).

Table 2[4]
Distribution of scholarships by country (1929/36)

	Germany	France	United Kingdom	Belgium	Spain	Italy	Sweden	Switzerland	Austria	Others	United States of America
Sciences	21	34	21	2	4	1	0	2	1	0	0
Law	2	2	2	0	0	0	0	6	0	0	0
Engineering	7	12	3	1	0	0	0	1	0	0	0
Agricultural engineering	0	4	11	0	1	2	2	0	0	0	3
Humanities	25	19	5	3	12	4	0	1	4	0	0
Medicine	28	32	8	8	4	9	0	4	6	6	2
Pedagogy	0	3	0	12	2	2	3	6	0	1	0
Others	1	1	0	0	0	0	0	0	0	0	0

France, Germany and England became the main promoters of the desired scientific update, although scholarships were also awarded to Belgium, Spain, Italy, Sweden, Switzerland, Austria and other European countries. This European preponderance did not stop grantees from crossing the Atlantic, to the United States of America. That was where a significant part of the national scientific community specialized, with support from JEN, in the first half of the 1930s, sometimes in collaboration with international philanthropic institutions like the Rockefeller Foundation. The University lecturers and researchers made up the majority of scholarship holders who, benefiting from individual fellowships, added to their specific education extra-curricular activities involving museums, libraries, archives, participation in tours, courses and conferences (IC Archive).

It is interesting to note how JEN managed to apply in Portugal what Santiago Ramón y Cajal had imposed on the Spanish Junta – the publication of original research in relevant journals (Ocón Cabrera 2007: 68-71) – which was standard practice in scientifically more advanced countries. Therefore, many Portuguese grantees published the results of their research in scientific journals and books in international publications

or, as mentioned above, presented their doctoral dissertations in the foreign universities they attended.

Although the funding provided by JEN was more significant in scientific and technical-scientific disciplines, exemplary cases of successful outcomes can also be found in the other areas such as Humanities. As an example we mention the case of Armando de Lacerda (1902-1984), who was a fellow in the discipline of phonetics in Germany (Hamburg and Bonn) for two and a half years and published his research in collaboration with Paul Menzerath (1883-1954) in the journal *Zeitschrift für Experimentelle Phonetik*. The work of Lacerda/Menzerath resulted in a patent for a device – "The Oral Labiography Inscriber". He subsequently created a chromographic method with the application of the "Lacerda polychromograph" and was invited by the Director of the Institute of Phonetics of Bonn to give a course directed only at researchers during the academic year 1932-33 (IC Archive).

5. Scholarships in the country: the desired approach to the leading countries

Table 3[5]
Number of scholarships in the country

Financial year	New scholarships	Number of extensions
1928/29	0	0
1929/30	20	0
1930/31	16	18
1931/32	2	28
1932/33	7	28
1933/34	9	24
1934/35	19	42
1936	3	34
Total	**76**	**174**

Similarly to what occurred with scholarships abroad, the number of new awards and renewals at home does not match the total number of grantees. Thus, the 71 internal researchers subsidized by the Junta between 1929 and 1936 benefited from 76 new scholarships and 174 renewals.

The reduced number of new scholarships awarded annually contrasts with the relatively high number of annual renewals, which reveals the principle that regulated the institution. In the design of its leaders, namely Celestino da Costa, all individuals, regardless of their profile – age, gender, affiliation or scientific degree – were subject to

evaluation based on their scientific production, at the time of receiving the scholarship or upon application for renewal of the same (Lopes 2014). Thus, the resources of the Junta were channelled primarily to those already holding a scholarship that had proved worthy of that funding. This state of affairs was left unchanged until 1934-35, when the political powers interfere, for the first time, in the functioning of JEN imposing a "roulement" in internal grantees (Rollo et al. 2012: 98-107), hence the unusual nineteen scholarships awarded in this new financial year.

Table 4[6]
Number of internal scholarship holders (1929/36)

Scientific areas	Scholarship holders	Scholarship holders with renewals	Scholarship holders with two or more renewals
Sciences	26	24	20
Law	2	2	0
Engineering	3	3	2
Agricultural engineering	2	0	0
Humanities	18	14	12
Medicine	19	16	11
Others	1	1	1
Total	**71**	**60**	**46**

The areas with the highest number of domestic grantees are Medicine, Humanities and Sciences. However, now the Sciences come first, followed by Medicine and Humanities and this ranking remains unchanged when we consider the fellows with renewed scholarships – out of 60 researchers, 40% are in Science, 26.7% in Medicine and 23.3% come from Humanities. Similarly to the scholarships abroad, the area that has the highest percentage of internal scholarship holders with two or more renewals is the area of Sciences (43.5%), now being followed by the Humanities (26.1%) and Medicine (23.9%).

In comparative terms, the major difference between scholarships abroad and at home is their average and maximum duration. If the average length of medical scholarships abroad was only 11.2 months, the average duration at home more than triples, reaching 37.8 months; scholarships in Science had an average duration of 24.5 months abroad as opposed to an average 32.6 months in Portugal, and finally, the scholarships in Humanities have an average duration of fourteen months abroad vs.

nearly double this value at home: 27.2 months. On the other hand, there was only one scholarship abroad that exceeded 54 months duration whereas at home thirteen scholarships lasted more than four and a half years.

The numbers in question reflect the ideas that the leaders of the Junta had about the requirements of scientific research in Portugal. The scientific update on recognised international centres would have a time limit and the scholarship holder would, at that limit, return home where he should have the necessary conditions to continue the research he had initiated abroad – only in this way could Portugal hope to approach the scientific levels of the most advanced countries (JEN 1931: 9-16).

In this perspective, the scholarships at home assume paramount importance; it is not surprising that 41 per cent of internal scholarship holders have also been scholarship holders abroad and that 69 per cent of grantees in this group have spent their first scholarship out of the country. The results expected by the leaders of the Junta from these studentships, external and internal, shows in the maximum duration of their scholarships at home, the only ones to exceed 70 months, and on the average length of 33 months of internal grants, as opposed to an average duration of 26 months of the exclusively internal scholarships.

A typical example of the importance of grantees that benefited from mixed foreign and domestic scholarships is the case already mentioned of Armando de Lacerda who returned to Portugal in 1933, at the end of his scholarship in Germany, and was awarded an internal scholarship until December 1936. In order to continue his experimental Phonetics studies started in Hamburg and Bonn, he immediately started to work on the installation of an Experimental Phonetics laboratory at the Faculty of Humanities of Coimbra with the financial support of JEN. Lacerda was appointed director of the laboratory since its inception in 1936, where national and international researchers specialised in new phonetic research methods under his supervision (IC Archive).

Besides the researchers who were awarded external and internal scholarships the Junta granted scholarships at home to individuals who had never received its support to study abroad. The latter group included young researchers at the beginning of their careers who were awarded small stimulating scholarships and, above all, dedicated scientists such as naturalists and doctors – e.g. Alfredo Magalhães Ramalho (1894-1959) and Geraldino Brites (1882-1941) – who were granted long-term scholarships to

complement their meagre incomes enabling them to continue producing scientific knowledge (IC Archive).

6. "Subsidies to research centres and scientific publications"

The claim that Portugal should take a worthy place among the cultured countries and collaborate with them in the work of Science (Costa 1939: 7-8) presupposed the financial support to institutions where scientific knowledge would be produced. The University being "the only available *millieu* for us to concentrate on science and carry out scientific research" (Nunes 2008: 249), meant that the financed scientific institutions were mostly linked to the three universities in the country – Lisbon, Coimbra and Oporto. Amongst these are institutes, scientific societies, laboratories, museums, colleges, clinics, observatories and research centres that benefited from the funding by the Junta that also financed schools and scientific publications. This finding is revealing of a major option taken by the Junta – given the possibility between establishing new scientific institutions or subsidizing existing ones, the choice falls on the latter. Economic reasons and the commitment to stimulate research in these institutions were behind the Junta's decision (JEN 1931: 10-11). In fact, during its existence, JEN only created the Centro de Estudos Filológicos (Centre of Philology Studies), in Lisbon, in 1932, and financed the installation of the aforementioned Experimental Phonetics laboratory of Faculty of Humanities of Coimbra, established by the IAC in September 1936.

Although JEN did not strictly determined the lines of research that should be carried out in the various institutions, nor did it stipulated, in principle, the studies to be pursued or the institutions the scholarship holders should choose, it nevertheless had a plan worked out largely by the vice-president for Science (Costa 1930). He believed that the more widespread scientific areas in Portugal, such as historical studies, should receive less funding (IC Archive). This conception derived from the Junta's concern of not being a mere bureaucratic institution that distributed the State funds. This means that, in addition to controlling the institutions' application for grants, JEN demanded the list of the institutions' researchers and their publications/communications, as well as the description of ongoing work and lists of the references that other scientists had made to the articles published by the research units.

The combination of these factors resulted as follows: (1) out of a total of 92 institutions and scientific publications financed between 1929 and 1936, 30.4%, are from Medicine, another 30.4% from Sciences, followed by Humanities with 21.7% (JEN 1930-1935, 1938 and IAC s.d.); (2) the Physics laboratories stand out clearly amongst the "Sciences" institutions that were more heavily subsidised; their funding, much higher than those of Chemistry laboratories, derived from Celestino da Costa's understanding that Chemistry had much older traditions among us than Physics (Costa 1930: 13-17; Costa 1939: 14); (3) the recognition of the quality of work developed in the laboratory of Physics of the Faculty of Science of Lisbon, as well as the potential of its members, was related with the large amount of money that the Junta gave it – 100.500$00. This value, much higher than the one received by its counterpart of Coimbra or even by the physics laboratory of Instituto Superior Técnico, was applied by its director, Armando Cyrillo Soares (1883-1950), in bibliographic acquisitions and research material, in addition to scientific publications (IC Archive; Costa 1930: 15) – the same destination that most directors of other institutions gave to JEN's money.

The development of Physics, as any other subject area, required a close connection between the "Subsidies to research centres and scientific publications" and "Scholarships abroad and in the country." Thus, funding the Physics Laboratory of the Faculty of Sciences of Lisbon should be regarded as a way for the Junta to obtain dividends from the financial support given to the scholarship holders that worked in this laboratory, such as Amorim Ferreira (1895-1974), Judite Ferreira (1905-?), Virgínia Paraíso (1901-?), Marques da Silva (1905-1965), Teles Antunes (1905-1965) and Manuel Valadares (1904-1982) (IC Archive).

By funding national scientific institutions JEN sought that scholarship holders and non subsidized researchers that worked for the institutions would have adequate conditions to work, while the external ex-scholarship holders would be, in principle, given conditions to continue their studies started abroad. This articulation among the various practices of the Junta, acting in accordance with the *modus operandi* of JAE (Ocón Cabrera 2007: 67-89), turned out to be difficult to manage due to the substantial resources they entailed and that the institution did not have.

7. "Cultural dissemination and intellectual interchange": the image of a country producer of science

The international dissemination of the results obtained internally was expected from professors/researchers producers of scientific knowledge. The main responsibility of the "Services for cultural dissemination and intellectual interchange" was to promote the exchange of national and foreign scientists through the organization of conferences, to finance the national representation in international scientific congresses and the organization of international scientific congresses in Portugal (JEN 1931: 41-43; JEN 1930: 18).

The choice of Portuguese speakers abroad was the responsibility of scientists and scholars of international renown, such as the future Nobel Prize in Physiology or Medicine Egas Moniz (1874-1955), the director of the Institute of Anthropology of Oporto António Augusto Esteves Mendes Correia (1888-1960) and the poet and director of the Faculty of Humanities of Coimbra Eugénio de Castro e Almeida (1869-1944). However, the group of subsidized participants in scientific congresses was more diverse, ranging from university students to full professors.

Table 5
Scientific congresses with Portuguese representation funded by JEN

Year	National and international scientific congresses[7]	Scientific congresses with participants subsidized by JEN[8]
1929	57	0
1930	76	8
1931	101	8
1932	88	5
1933	77	1
1934	87	0
1935	95	5
1936	3	1
Total	**584**	**28**

Of a total of 584 national and international scientific congresses held between January 1929 and April 1936, the Junta only sponsored, under the heading "Representation in Congresses", the Portuguese presence in 28 (5%). Among these are the Medical congresses (35.7%), followed by the Pedagogy (25%) and Sciences (21.4%).

Despite a negligible representation, derived from strong budgetary constraints and limited expenditure on "Services for cultural dissemination and intellectual interchange",[9] the importance that the Junta bestows on the integration of the national scientific community in international communication networks is shown in the fact that

all the congresses are international. Moreover, by requiring from the scholarship holders the presentation of communications – 24 of the 28 congresses concerned (Lopes 2012: 149-175), the institution reveals how alongside the conferences by Portuguese in foreign countries, the national representation in scientific congresses also aimed at "international appreciation of the Portuguese scientific production" (JEN 1930: 18).

"Representation in Congresses" included participation in congresses and brief visits to scientific institutions, whereas the rubric "Study Missions of Short Duration" only included visits to scientific institutions. On those trips lasting a few weeks, the individuals subsidized by the Junta visited various scientific institutions or schools, obtaining knowledge about its operation or about new laboratory or pedagogic practices, as well as information necessary for the continuation of ongoing research work (JEN 1931: 41-43; JEN 1933: 269-271). The scientific expertise, on the other hand, being committed to long-term scholarships, depended also on a few readers who sometimes finding it impossible to obtain or renew their scholarships, proposed to expand the Portuguese language and literature in European universities with the ultimate goal to increase their scientific value; therefore, their presence at scientific congresses was justified (Fitas 2013b: 22-51).

Celestino da Costa was central for the promotion of cultural and intellectual interchange within the Junta. He was subsidised to participate and deliver talks in the III Federal Congress of Anatomy, in Holland, in 1930, and in the XXVI and XXVII meetings of the Association des Anatomistes, in Poland, in 1931, and in France, in 1932. During the same mission, he visited research centres, made contact with readers, scholarship holders and their supervisors and established in the course of those meetings an effective science diplomacy aimed at holding in Portugal, in 1933, the XXVIII Congress of the Association des Anatomistes. Once his proposal was accepted by this society he once more benefited from the financial support from the Junta that granted a subsidy for the organization of this Congress in Portugal, as had occurred in 1930 with two other international conferences (Lopes 2012: 149-175; IC Archive).

The international prestige of Portugal, as a country that produced scientific knowledge, was a key step in the process of scientific and pedagogical renewal borne by the Junta. However, was such an objective achieved successfully in the XXVIII Congress of the Association des Anatomistes? The words written by H. Billet in the *Journal des Sciences Médicales*/*Journal of Medical Sciences* of Lille, in 14 May 1933,

confirm its success and were worthy of reproduction in the *Arquivo de Anatomia e Antropologia*/*Archive of Anatomy and Anthropology*:

> *Beaucoup d'entre eux* [congressistes] *ne furent pas peu surpris de trouver, dans les Instituts d'Anatomie de Lisbonne et de Porto, des installations très supérieures à celles qu'ils possédaient eux-mêmes, d'apprendre et de vérifier, de visu, qu'au Portugal les pouvoirs publics subventionnent généreusement l'enseignement supérieur* (*Arquivo de Anatomia e Antropologia* 1934: 486-488).

8. Conclusion

JEN was born in the troubled period of the Military Dictatorship, marked by the resolve of a group of scientists and intellectuals who, since the earliest days of the Republic, fought against the Portuguese scientific backwardness. Drawing heavily on its Spanish counterpart JAE, and on the European experience of some of its leaders, who on behalf of the scientific and pedagogical renewal in the country accepted to confront with the new political power, a plan of action was outlined mostly by Celestino da Costa. Thus, the Junta invested on the most promising and meritorious researchers, concentrated its efforts around the scientific and technical-scientific subjects, although without abandoning the other areas, and put in place a plan based on the following measures: application of a large part of its reduced budget into the allocation of scholarships in the scientifically most developed countries (e.g. France, Germany and England) and provide support to the scholarship holders on their return back to Portugal through the allocating of research scholarships in the country, the renewal of which depended on the scientific production of the researcher. In addition to the allocation of scholarships the Junta financed several scientific institutions and publications, in order to narrow the gap between Portugal and the most advanced countries. Finally, the Junta sought to ensure the means to support the integration of the renewed scientific community in international networks and the dissemination abroad of science produced internally, by sending Portuguese speakers abroad, by supporting the active participations of Portuguese scientists at international congresses and by financing the organization of congresses in Portugal. The genuine use of science diplomacy was instrumental for the realisation of the international congresses that were likely to attract the international scientific community to Portugal. The results achieved, although in some cases very significant, nevertheless fell short of all the objectives. Despite this relative success we need to take into account the characteristics of the New State.

Notwithstanding its plan to develop the scientific activity described above, the New State had an authoritarian attitude, as was shown in 1934-35 when it interfered in the internal affairs of JEN, hence defying the institution's autonomy of decisions, which soon resulted in the extinction of JEN and its replacement with a more controlled and less scientific IAC.

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[2] Chart based on "management Accounts" presented in JEN 1930-1935, 1938 and IAC s.d.
[3] Tables 1 to 5 are based on JEN 1930-1935, 1938 and IAC s.d. Compare tables 1, 3 and 4 with Fitas 2013a: 49-72.
[4] See note 3. The total (356) exceeds the aforementioned 292 new grants and extensions because sometimes one grant was used in more than one country.
[5] See note 3.
[6] See note 3.
[7] Column based on various sources, including national and international specialized journals. In 1936 the congresses were recorded only until 10 April.
[8] See note 3. The values are those inscribed in "Representation in congresses".
[9] See Chart 1.